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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,670

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Jacques Jolly

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08/29/2006

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EXAMINER

STOUFFER, KELLY M

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/720,670

Applicant(s)

JOLLY ET AL.

Examiner

Kelly Stouffer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 25 November 2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because in line two fiber should be – fibers--. Correction is required. See MPEP § 608.01(b).
2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Please label the corresponding preferred embodiments of the invention DETAILED DESCRIPTION OF THE INVENTION and label a section entitled BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S) followed by "Not Applicable".

3. The disclosure is objected to because of the following informalities

On page 3 line 27 fiber should be --fibers--.

Appropriate correction is required.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities: In lines 1 and 2 fiber should be --fibers--. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent number 6690868 to Anderson et al. Claim 1 of the applicant requires a CVD process for producing performs of dispersion shifted or dispersion compensating optical fibers with a core, ring, and inner and outer cladding by depositing layers. The layers of the ring and inner cladding have a phosphorous content of not greater than 0.1 wt %. Anderson et al. discloses an optical fiber that can be prepared with acceptable dispersion properties in column 5 lines 45 and 46 by modified chemical vapor deposition

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(MCVD) in column 9 lines 13-23. The fiber is made up of a core 110 a ring, or zone 120, and cladding layers 130 shown in Figure 1 and described in column 4 lines 24-29. The cladding layers may be considered inner and outer cladding layers 430 and 450, respectively, shown in Figure 4. The inner cladding layer of the optical fiber has a phosphorous content of 0.7 mol % that corresponds to a weight percent of 0.01% when the entire composition is taken into consideration in column 9 lines 34-36. The ring layer of the optical fiber has a phosphorous content of 0.3 mol % that corresponds to a weight percent of 0.004% when the entire composition is taken into consideration in column 10 lines 15-18. Anderson et al. meets all the recitations of claim 1 at least as broadly recited by claim 1.

With regard to claim 3, Anderson et al. describes an outer cladding 450 in Figure 4 that has the same refractive index as inner cladding 430 in column 6 lines 54-58. Anderson et al. in column 9 lines 32-33 describes the refractive index of cladding layers as controlled by their chemical composition. Because the chemical composition of the inner layer contains 0.004 wt % phosphorous and has the same refractive index as the outer layer, one of ordinary skill in the art would deduce that the outer layer would have the same chemical composition. In addition, Anderson et al. also describes cladding 130 also referred to as innermost cladding 130 in Figure 1 (column 4 lines 45-46) that may be comprised of more than one cladding layer in column 4 lines 35-39. The innermost cladding made up of more than one cladding layer may be made up of an outer and inner cladding component, at least as broadly described by the applicant. Therefore, when Anderson et al. refers to the inner cladding containing 0.004 wt % of

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phosphorus, he refers to all possible cladding layers that may make up the innermost cladding layer. Anderson et al. meets all the recitations of claim 3, at least as broadly described by claim 3.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. Anderson et al. is described above and includes an optical fiber with a ring, outer cladding and inner cladding deposited by MCVD with a phosphorous content of less than 0.1 wt%. Anderson et al. does not indicate a more specific target range for the phosphorus content of the layers. However, Anderson et al. teaches that the refractive index of the layers are controlled by their chemical composition in column 9 lines 32 and 33. The variable of phosphorus content in the film is therefore reliant on the method used and its importance is only dependent on the desired refractive indices

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of the layers. Modification of this variable is by routine experimentation and is not inventive.

It would have been obvious to one of ordinary skill at the time of invention to modify Anderson et al. by routine experimentation to include values of phosphorus concentration in the inner cladding and ring layers of the optical fiber within the range of 0.03-0.1 wt% as required by the applicant in order to fabricate layers with a desired refractive index, especially absent evidence showing a criticality for using the claimed range of phosphorous concentration. (See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955))

With regard to claim 4, Anderson et al. includes layers deposited by MCVD that contain fluorine in column 9 lines 34-36 and column 10 lines 15-18. Anderson et al. does not specify a deposition pressure for the layers. Anderson et al. teaches that the deposition conditions, including pressure, must be reengineered every time the fluorine concentration in the gas is changed in order to control the changing melting point and viscosity of the glass that change as a result of the fluorine concentration in column 2 lines 5-14. The variable of deposition pressure is therefore reliant on the method and conditions employed in carrying out the invention and its importance lies in the control of melting point and viscosity of the glass that changes as a result of fluorine concentration. Modification of the variable of deposition pressure is by routine experimentation and is not inventive.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson et al. by routine experimentation to include a deposition

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pressure within 20 % of atmospheric pressure as required by the applicant in order to control the melting point and viscosity of the glass that changes as a result of fluorine concentration especially absent evidence showing a criticality for using the claimed pressure. (See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955))

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of US Patent number 5721800 to Kato et al. Anderson et al is described above and includes an optical fiber that is capable of polarization-mode dispersion in column 5 lines 43-46. Anderson et al. does not include an optical fiber of high polarization-mode dispersion. Kato et al. teaches an optical fiber of high polarization mode dispersion that is intended for use in a submarine cable because submarine cables must have optical fibers with transmission over a large distance in column 1 lines 24-27.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Anderson et al. to include an optical fiber capable of high polarization-mode dispersion as taught by Kato et al. in order to construct an optical fiber that is intended for use in a submarine cable and can transmit signals over a large distance.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beales et al. shows a similar optical fiber containing phosphorus in the layers

Blaszyk et al shows an optical fiber containing phosphorus in some layers.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kms

Kelly Stouffer  
Examiner  
Art Unit 1762

  
TIMOTHY MEEKS  
SUPERVISORY PATENT EXAMINER